The Great Lakes Observing System: Serving up data to support beach management in the Great Lakes

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GLOS
Great Lakes Observing System

Overview

- Background on GLOS
- Role of GLOS in the Great Lakes
- Overview of the GLOS system and capabilities
- GLOS Tools and Services
- What can GLOS do for you?

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A Global Voice for the Great Lakes

GROUP ON EARTH OBSERVATIONS

IOOS®
INTEGRATED OCEAN OBSERVING SYSTEM

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

USGS

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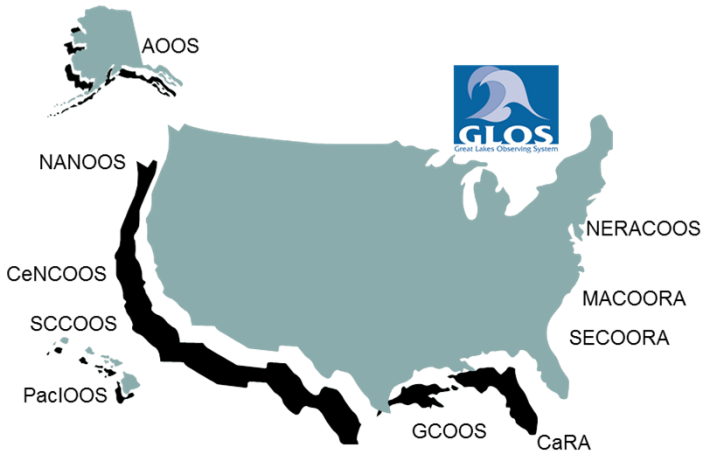
LARGER SCALES OF DATA INTEGRATION



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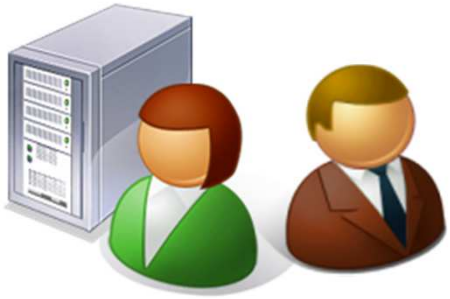
GLOS Role

Research Community



Decision-Makers

Resource Managers

- Facilitate the **coordination** of the Great Lakes observing network
- Support and enhance the operation of Great Lakes **observation** capability
- Improve access to high-quality, **integrated data**
- Develop and enhance data products and **decision-support tools**

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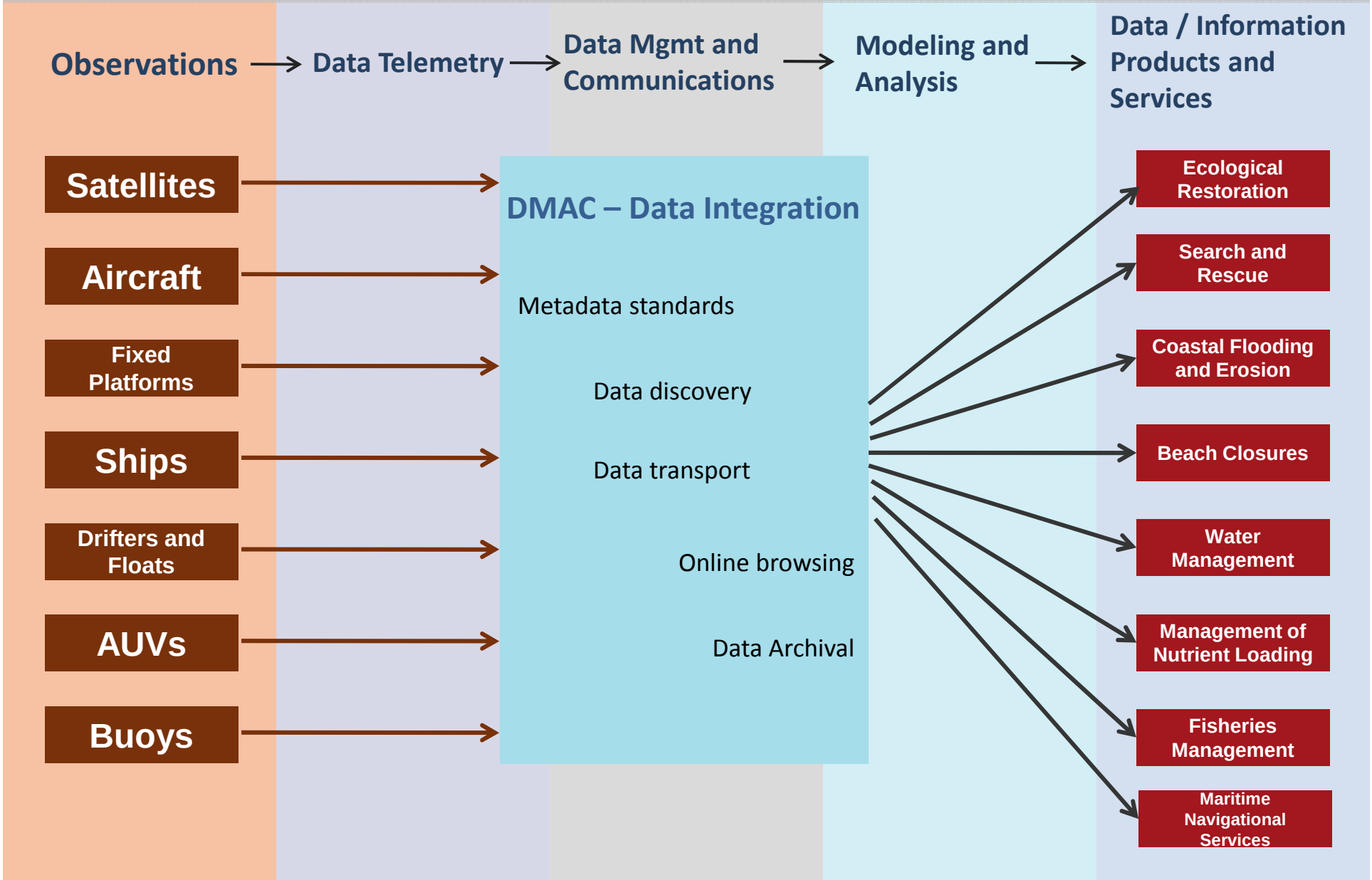
The GLOS Enterprise

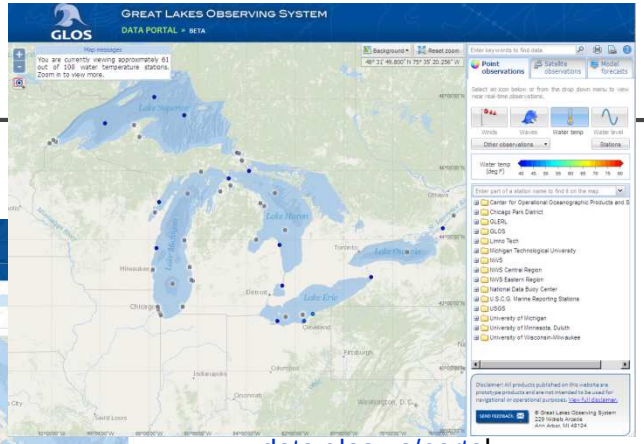
Integrated Technology / Data / Applications Architecture in the IOOS Framework



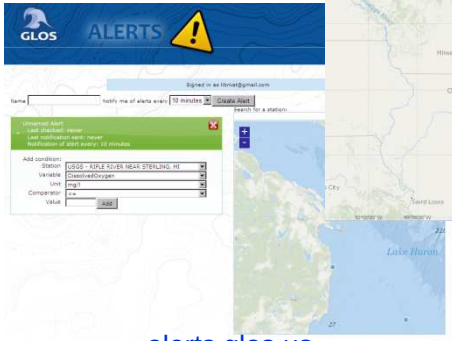
Harvested data

Metadata / XML database

searching



data.glos.us/portal



alerts.glos.us

GeoNetwork Metadata

boaters.glos.us

Driven by User Needs

- A key objective for GLOS is to deliver data in a variety of ways, with the goal of developing easy-to-access data and decision support products.
- Focus Areas
  - Ecosystem Health
  - Maritime Operations
  - Public Health and Water Security
  - Climate Change Adaptation
- Prioritizes activities according to stakeholder needs

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GLOS Data and Tools

Some Highlights

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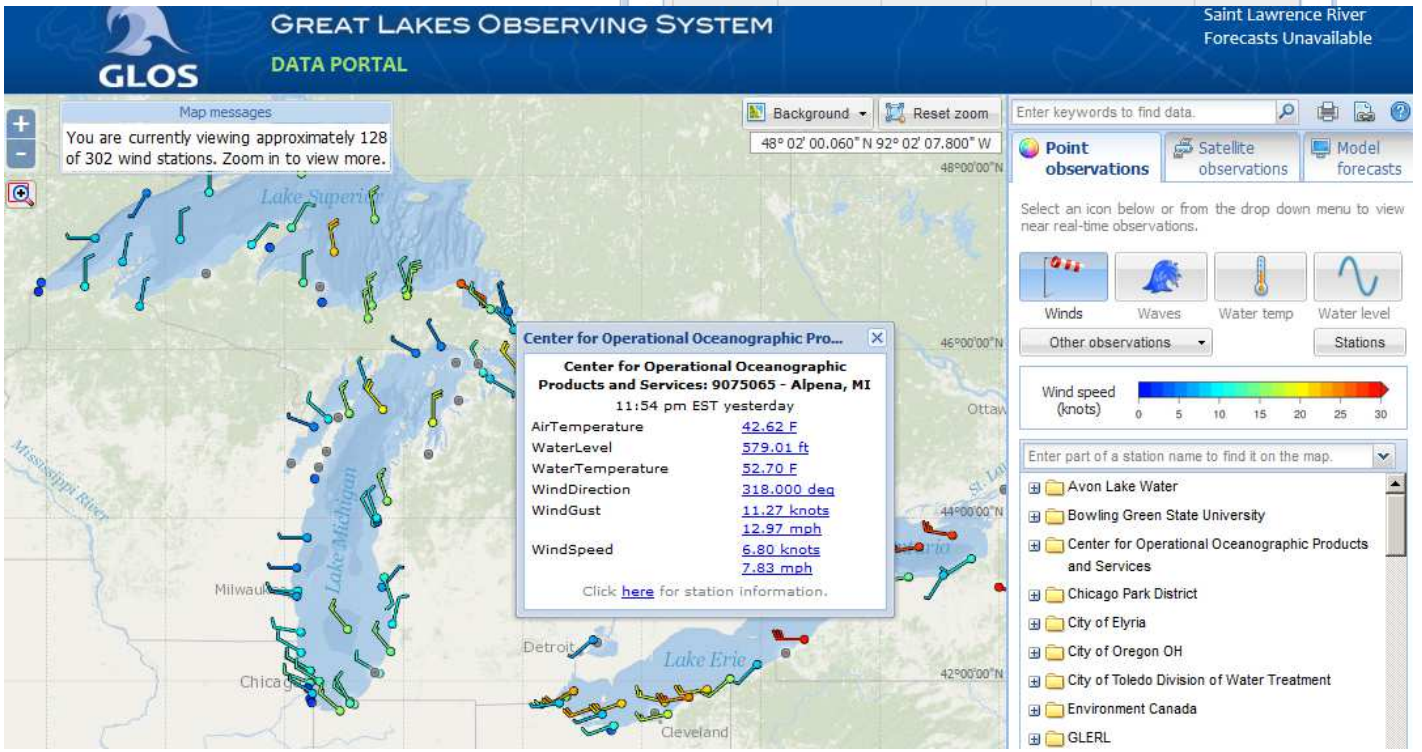
Data Access: GLOS Data Portal

- POINT OBSERVATIONS
- SATELLITE OBSERVATIONS
- MODEL FORECASTS
- SEARCH



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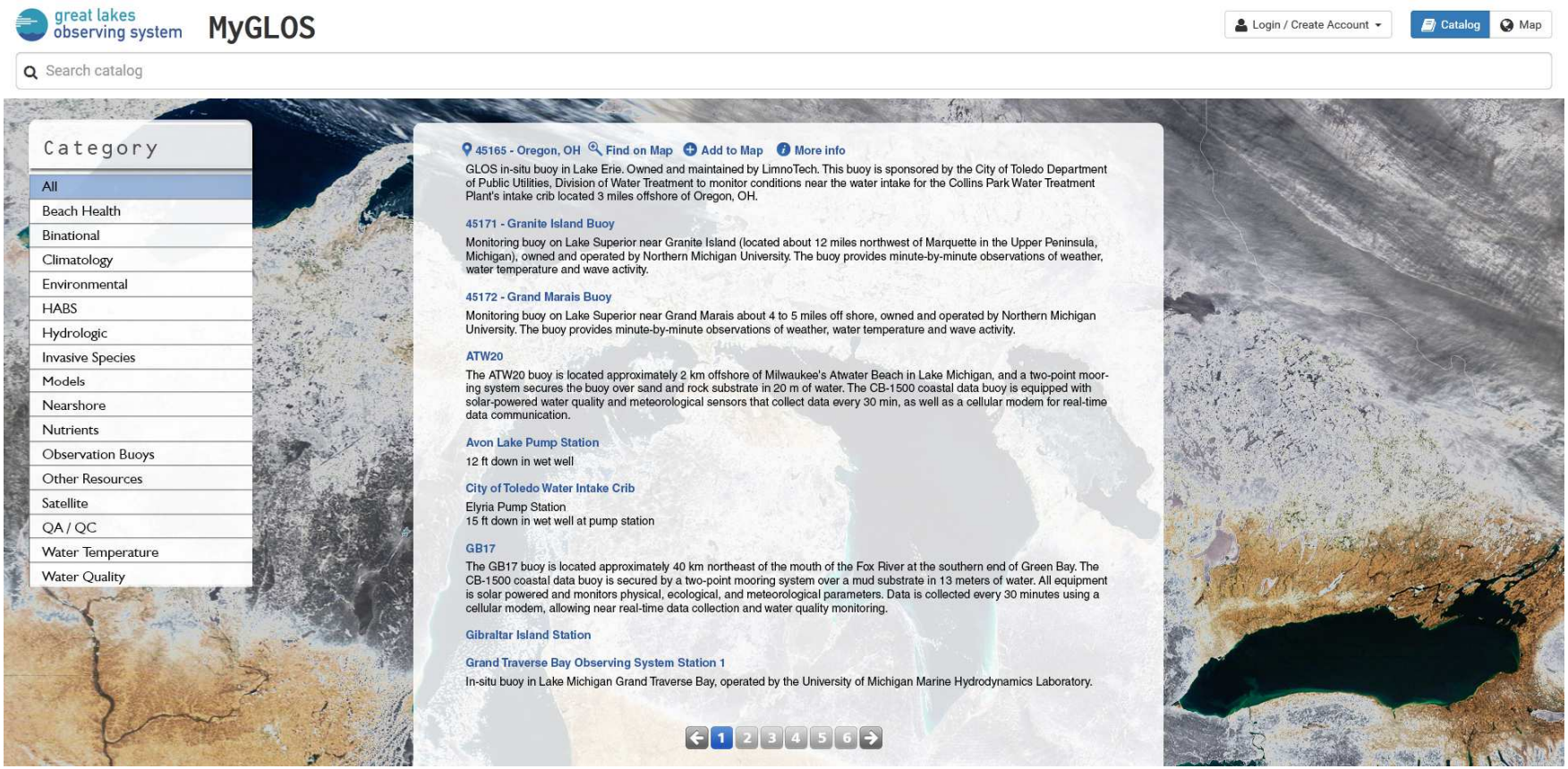
MyGLOS



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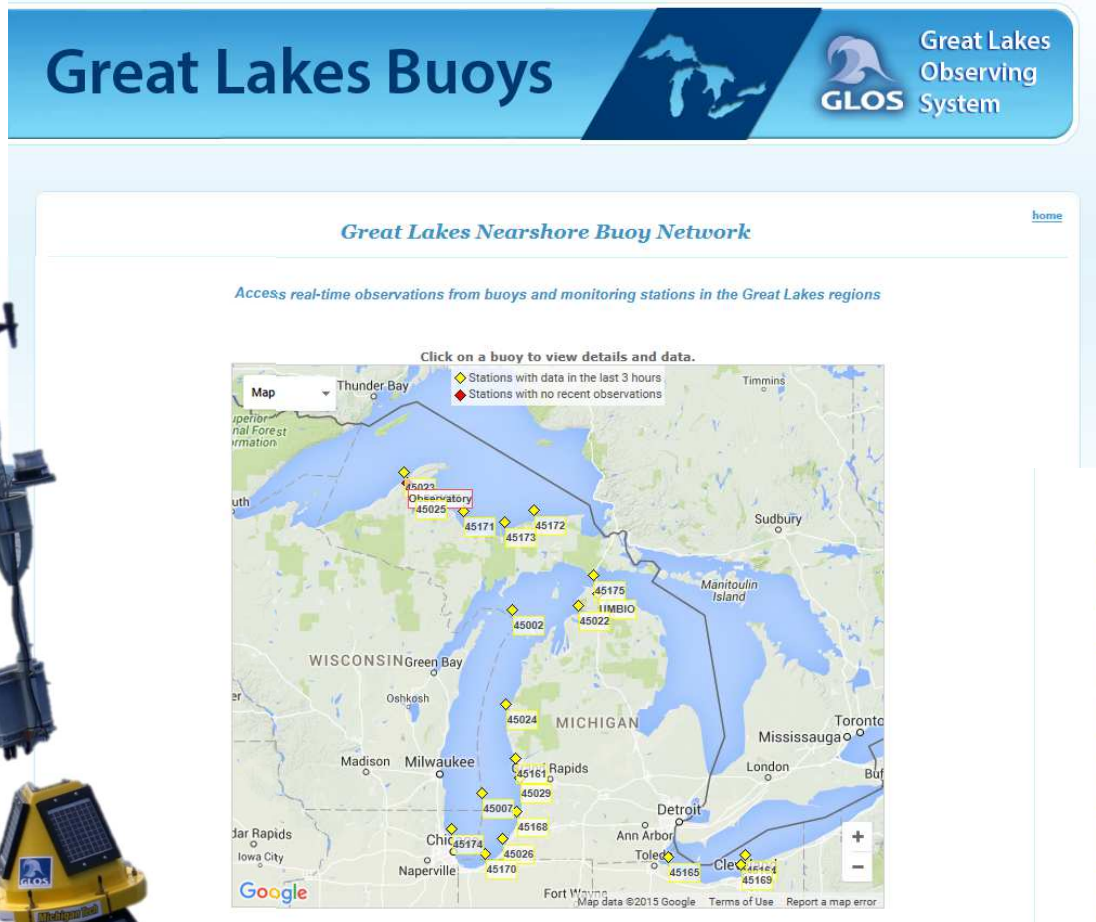
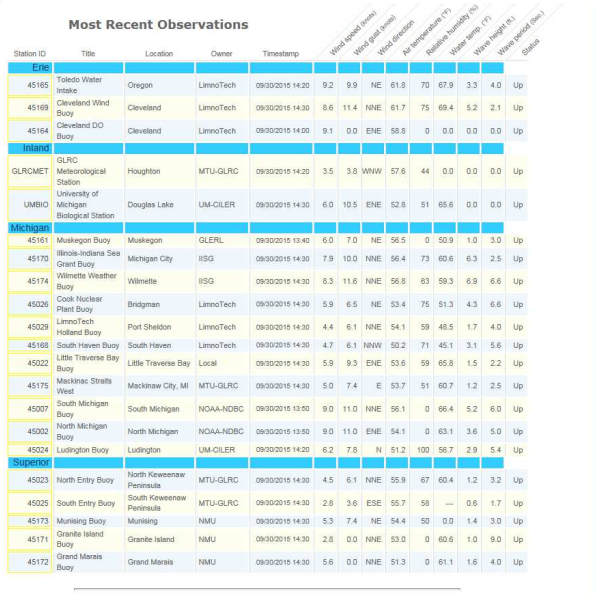
Nearshore Buoy Network





Rapid one-click access to buoy sites with current status

User-friendly overview of primary data on front page

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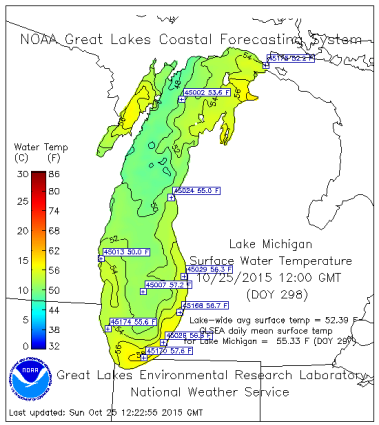
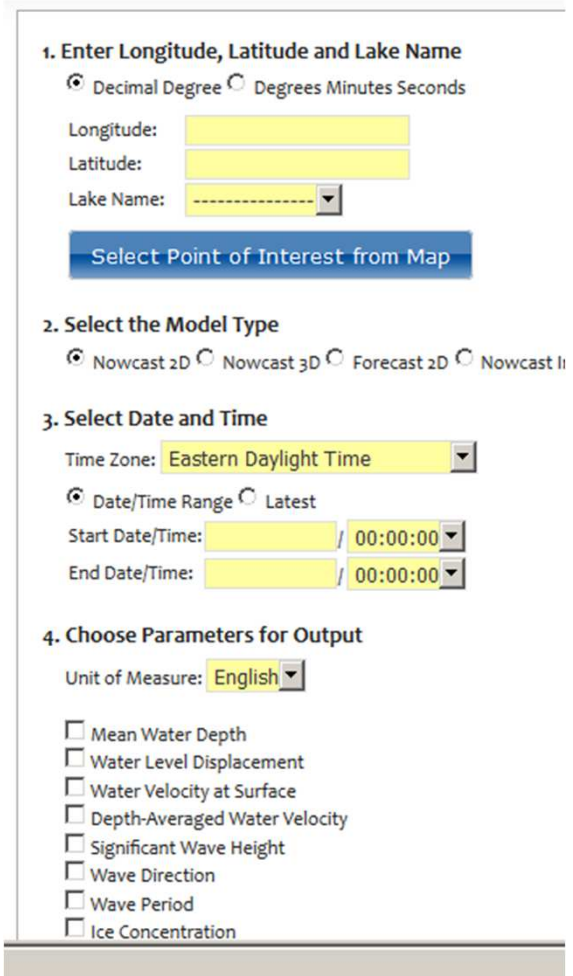
Direct Data Access:
Great Lakes Coastal Forecasting System

- The NOAA GLCFS is a model that provides nowcasts and forecasts for waves, currents and temperatures in near-realtime
- Data is updated on the GLOS THREDDS server (TDS) after each run of the model and archived from 2006
- The GLOS **Point Query tool** provides quick access to GLCFS input data and model output for a given location and time period

http://data.glos.us/glcfs/
http://www.glerl.noaa.gov/res/glcfs/





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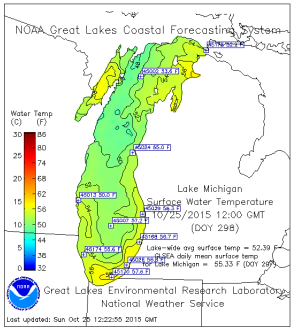
Making Data Accessible - Virtual Beach

- GLOS is helping to bring real-time data to beach managers
- GLOS data services enable the development and implementation of daily water-quality "nowcasts" at coastal beaches throughout the Great Lakes
- Collaborative effort between EPA, USGS, Wisconsin Sea Grant, and WI DNR

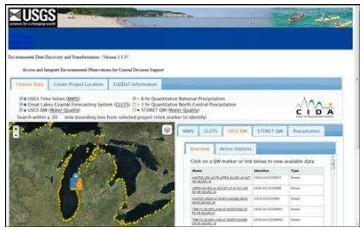
GLCFS



GLOS THREDDS server (TDS)

THREDDS

EnDDat



Virtual Beach

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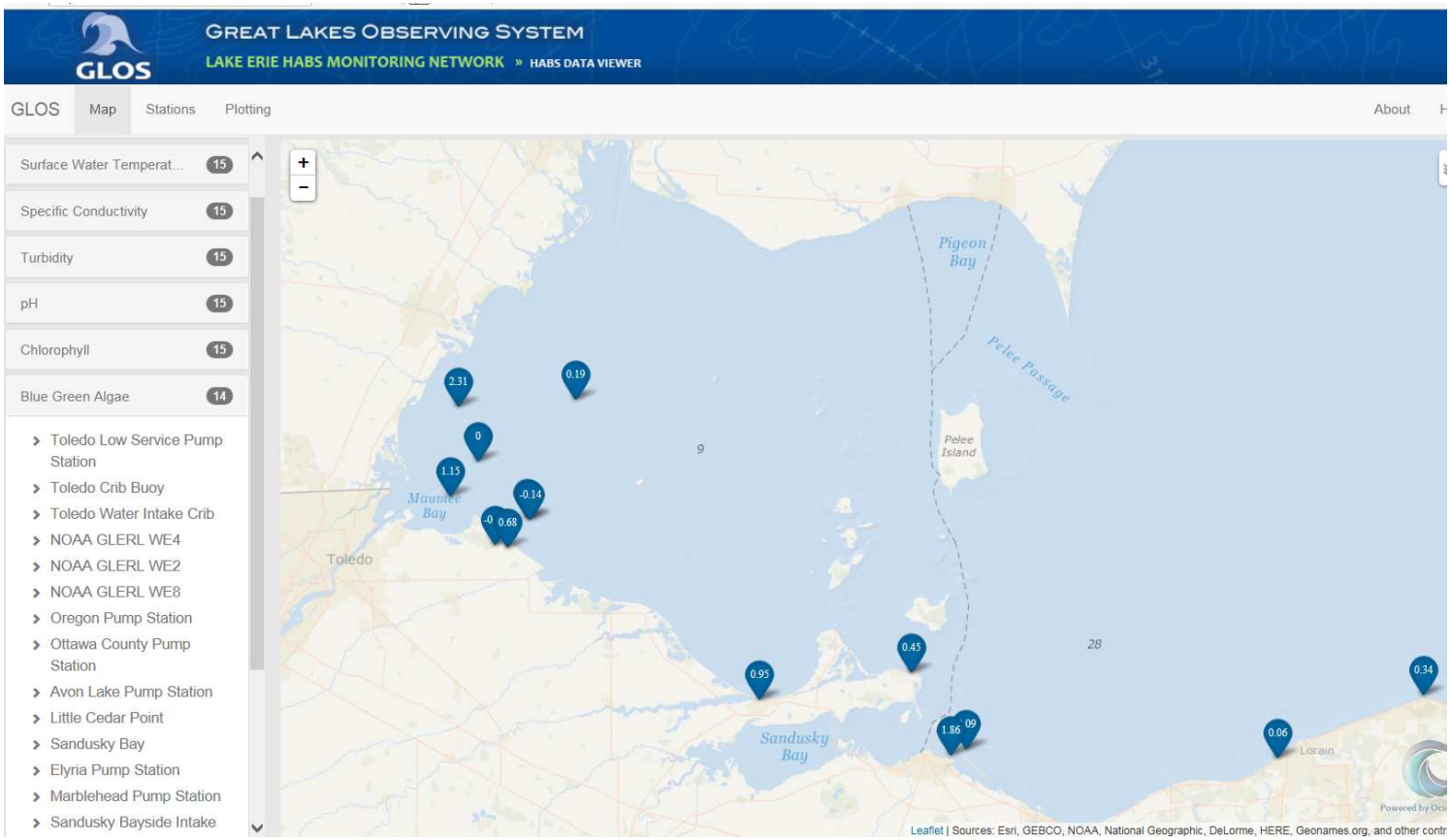
http://www.seagrant.wisc.edu/virtu

Specialized Tools: Lake Erie HABs Viewer



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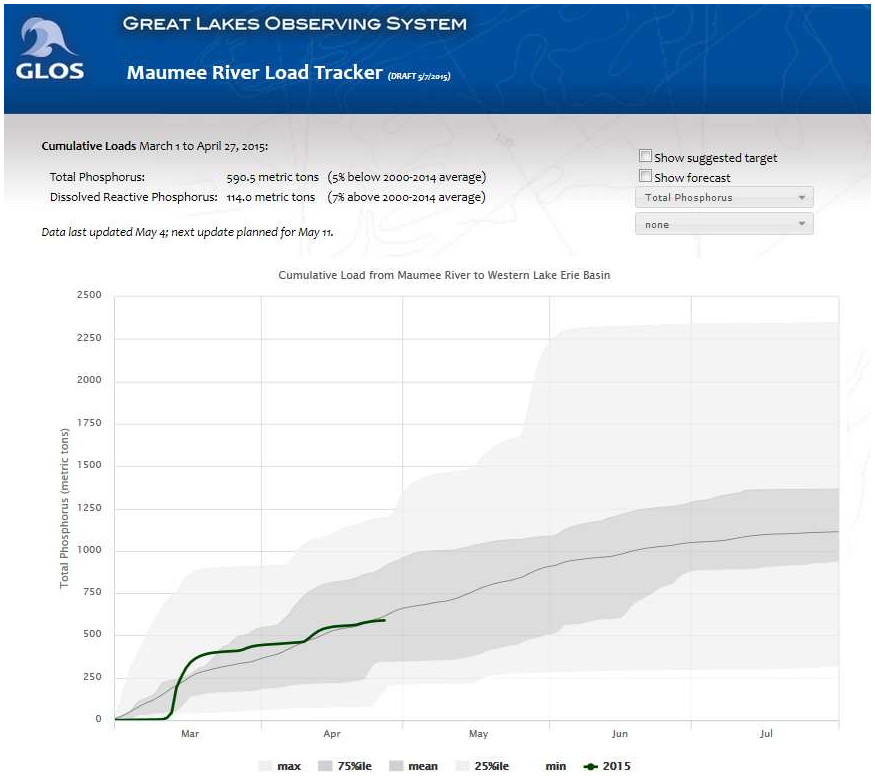
http://habs.glos.us

Data Availability: Nutrient Loads to Lake Erie

Heidelberg University
National Center for Water Quality Research

Maumee River Nutrient Tracker

- Heidelberg monitors nutrient concentrations and calculates loads.
- Project supports regular schedule for GLOS-hosted publication and display.



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Use GLOS data in your own tools

- myBeachCast

- The Great Lakes Commission's website and mobile app
- Deliver critical information about beach advisories and related human health information

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Recap

GLOS is **network** of people and technology coordinated to provide free, easily-accessible data about the Great Lakes

- Provide coordination and support for observing
- Help to share and make data accessible
- Web portals to view, download data
- Data management facilitator
- Variety of decision-support tools

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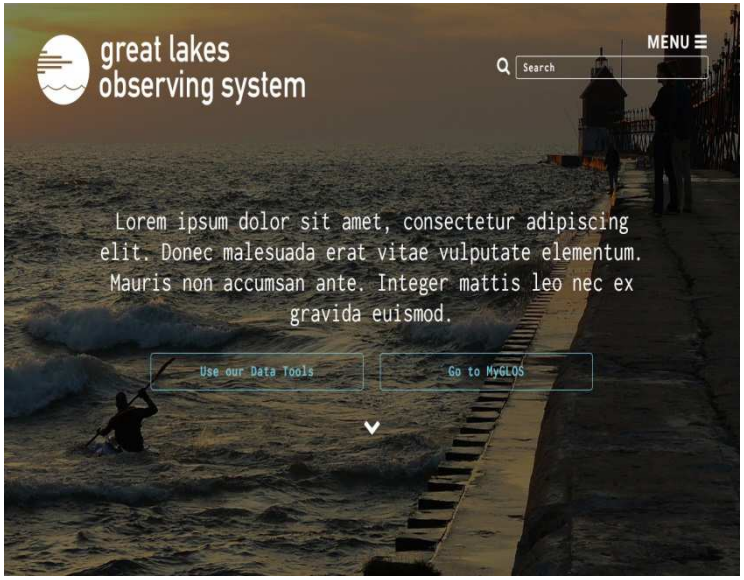
Connect with GLOS

- Membership
- Annual Meeting
- Grants & Mini-grants
- Use our data
- Share your data
- Use our tools (and give feedback)
- What are your data needs?



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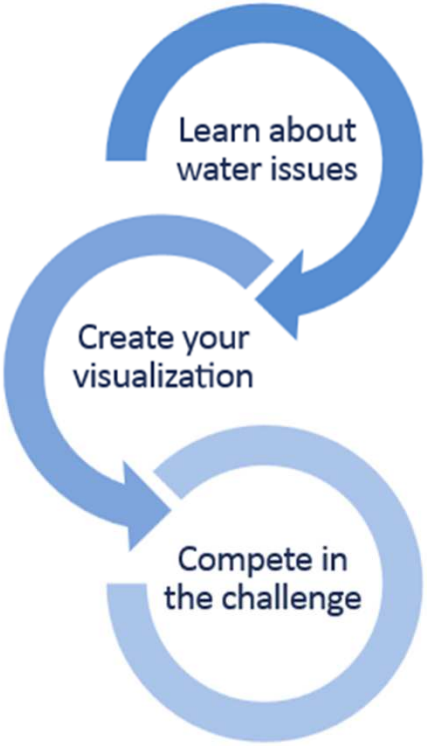
http://www.glos.us/

Visualize Your Water:
A GIS VISUALIZATION CHALLENGE for HIGH SCHOOL STUDENTS



- High school students are invited to use **DATA VISUALIZATION** to tell a story about water quality issues, that will **INSPIRE ACTION**.
- Winners will be chosen in the following topic areas: **WATER AVAILABILITY/DROUGHT, NUTRIENT POLLUTION** and **URBAN STORMWATER**.
- **GEOGRAPHIC INFORMATION SYSTEM (GIS) SOFTWARE** is available to all U.S. K-12 schools (see below)

Launches January 2016
http://esriurl.com/2016edchallenge

EPA USGS science for a changing world esri

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www.esri.com/visualizeyourwater

#vizUrWater

Great Lakes Data Challenge 2016

- Hackathon for the Great Lakes
- Appathon
- Prizes

Join Us!

- Planning Committee
- Judge
- Sponsor
- Submit a Challenge or an Idea
- Resource Expert
- Participate

Thank You!

- Questions?

- Andrea Maguire
- amaguire@glos.us

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